

APPENDIX 2 - RF EXPOSURE

1 FCC STANDARD APPLICABLE

1.1. FCC STANDARD APPLICABLE:

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

As per KDB 447498 D01 4.3.1,

Step a: For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})]$.

$\lceil \sqrt{f(\text{GHz})} \rceil \leq 3.0$ for 1-g Head & Body SAR and ≤ 7.5 for 10-g extremity Hand SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- The values 3.0 and 7.5 are referred to as numeric thresholds in **step b)** below

1.2. MEASUREMENT RESULT:

As the result of calculation result indicates, the RF exposure generating from given transmitter (transmitter employed digital modulation) can be excluded from SAR measurement, and is deemed compliant with RF exposure as per FCC.

Step a:

This is portable device and the max. output power including tune-up tolerance is 1.585 (mW), lower than the threshold given and derived as formula given above, where

Freq. (MHz)	Max. output power including tune-up tolerance (dBm)	Max Conducted Output Power (mW)	Distance (mm)	Result
2480	2	1.585	5	0.499

$$= 1.585 \text{ (mW)} / 5 \text{ (mm)} * \sqrt{2.480 \text{ (GHz)}} = 0.499 < 3.0$$

2 ISED STANDARD APPLICABLE:

2.1. ISED STANDARD APPLICABLE

As per RSS-102 Issue 5 March 19, 2015, any transmitter shall be compliant with applicable RF exposure prior to being market. In §2.5.1, SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table 1.

Output power level shall be the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time-averaged output power.

2.2. MEASUREMENT RESULT:

Freq. (MHz)	Max. output power including tune-up	Peak Gain (dBi)	Max Conducted Output Power (mW)	e.i.r.p (mW)	Exemption Limit (mW)
2480	2	0.5	1.585	1.778	4

Measurement Result:

The e.i.r.p is 1.778mW when the device operates at the separation distance below or equals to 5mm. It is below the SAR exemption limit 4mW.

Note:

1. The tune up power referred the AVG power of the test report T200910W02-RP for SAR test exclusion purpose.